



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/523,741

03/29/2005

Fabio Eduardo Rosa

04304-0202436-US0

2470

7278

7590

04/04/2006

DARBY & DARBY P.C.

P. O. BOX 5257

NEW YORK, NY 10150-5257

EXAMINER

CAVALLARI, DANIEL J

ART UNIT

PAPER NUMBER

2836

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/523,741	Applicant(s) ROSA ET AL.	
	Examiner Daniel J. Cavallari	Art Unit 2836	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 February 2005.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2/2/2005</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

The examiner acknowledges a submission of the preliminary amendment filed on 2/2/2005. The amendments to the claims and specification are accepted.

#### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on 2/2/2005 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

#### **Specification**

The specification is objected to for the following reasons:

- The specification fails to adequately disclose Figure 2. Figure 2 is referenced in the specification as a "...simplified flowchart of a possible construction..." (See Specification, Page 6) however Figure 2 appears to be a circuit diagram.

Furthermore, the "compensating load" (60) has a connection to ground and to the "compensating load modulation switch" (80) in Figure 1 but Figure 2 shows the "compensating load" (60) located between the power source (40) and the switch (80) making it unclear how the circuit is actually constructed.

Appropriate action is required.

### ***Claim Objections***

Claims 1 and 9 are objected to because of the following informalities:

In regard to Claim 1

- The examiner fails to find a proper disclosure in the specification for the limitation of a “current consumption of the compensating load” is related to “a function of the energization state of the electronic controls...” The examiner notes that although these claim limitations are recited in the specification (See Specification, Page 5), the specification appears to lack a proper explanation of the function and the relationship between the current consumption of the compensating load and the energization state of the electronic controls. Appropriate correction is required.

In regard to Claim 9

- Claim 9 recites the limitation of “...with a time limit inferior to a predetermined period of time”. The use of the term “inferior” in reference to an amount of time is not commonly used in the art. The term will be examined as best understood to mean “equal”.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 3, & 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regard to Claim 1

Claim 1 recites the limitation "...the current consumption..." and "...the relation between the voltage of the electric network and the voltage of the power sources (40)..." however a "current consumption" nor "a relation between the voltage of the electric network and the voltage of the power sources (40)" have been previously disclosed. There is insufficient antecedent basis for this limitation in the claim.

The limitation of "...the relation between the voltage of the electric network and the voltage of the power source (40)..." is unclear as "the relation" has not been positively disclosed. It is unclear what the "relation" is or how it relates to the network and the voltage of the power source.

The claim will be examined as best understood to mean, "...to maintain constant current consumption of the power source..." and "...maintain a constant voltage..."

Art Unit: 2836

Claim 1 further recites the limitations "...in order to define the current consumption of the compensating load (60), as a function of the energization state of the electronic controls..." however neither a "current consumption of the compensating load" nor a "energization state" has been previously disclosed. There is insufficient antecedent basis for this limitation in the claim. It is further unclear what is meant by the statement "...define the current consumption..." The claim will be examined as best understood to mean that the command module and compensating load together provide for current control.

In regard to Claim 3

Claim 3 recites the limitation of "...the maximum value of said current consumption is that corresponding to the sum of the current consumption produced by the electronic controls of the drive switches of all the loads..." It is unclear what is meant by the "current consumption produced by the electronic controls..." as current consumption implies current being consumed rather than "produced" so it is unclear whether the electronic controls are actually producing current or consuming current.

Because of the 112 problems, claims 3 & 4 cannot be examined against prior art.

In regard to Claim 5

Claim 5 recites the limitation "...the energization state of the electronic controls..." however an "energization state" of the electronic controls was not previously disclosed. There is insufficient antecedent basis for this limitation in the claim.

Art Unit: 2836

Therefore, it is unclear what is being informed to the control unit. Furthermore, it is unclear what is meant by the term "informed" as this term is not one commonly used in the art to refer to the interconnection of electrical devices.

Because of the 112 problems, claim 5 can not be examined against prior art.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Azimi et al. (US 6,239,510), Kronberg (US 5,119,014), & Aboyoussef et al. (US 6,339,526).

In regard to Claim 1

Azimi et al. (hereinafter referred to as Azimi) teaches:

- A compensating load, read on by loads 160-164 (See Figure 4 & Column 3, Line 65 to Column 4, Line 65) energized by a power source, read on by the voltage supply (See Column 3, Lines 13-29).
- A network (not pictured) for energizing loads (120, 125, 130, 135) by a drive switch (So) (See Figure 4 & Column 3, Lines 14-29) in which Azimi teaches the loads supplied a voltage from a voltage supply which provides power for the device.

Art Unit: 2836

- The compensating load (160-164) constructed to maintain a constant current consumption and constant voltage (See Figures 4, 7A, 7B & Column 3, Line 65 to Column 5, line 21 & Column 5, Lines 39-51).
- A control unit, read on by CPU (140), operatively associated with a command module, read on by CLK (140) and with the compensating load (160-164) to provide current control (See Column 3, Line 65 to Column 4, Line 65).

Azimi fails to teach

- Individual switches for each load (120, 125, 130, 135) (See Figure 4).
- A voltage sensing means used to drive the load off when the voltage of the power source is lower than a predetermined minimum value.

Azimi teaches a switch (So) for connecting and disconnecting loads (120, 125, 130, 135) (See Figure 4) but fails to teach the use of individual switches connected between the loads and the power supply.

Kronberg teaches a sequential power-up circuit in which the loads (64) are individually connected by a switch (56) (See Figure 1, Abstract & Column 6, Line 25 to Column 7, Line 7).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the individually controlled and connected loads taught by Kronberg into the design as to individually connect the loads (120, 125, 130, 135) via an



Art Unit: 2836

individual switch. The motivation would have been to provide the ability to sequentially start the loads avoiding further excess current (See Abstract).

Aboyoussef et al. (hereinafter referred to as Aboyoussef) teaches a voltage sensing means, read on by the low voltage monitor (120) operatively associated with a power source (Battery Plant), producing a drive signal for a switch (130) in order to de-energize the load (Load Side) (See Figure 1 & Column 4, Lines 11-21).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate low voltage detection circuit into the power system (200) of Azimi (See Azimi, Figure 4). The motivation would have been to provide protection to loads (120, 125, 130, 135) taught by Azimi that could be damaged by low voltage.

Azimi further teaches:

In regard to Claim 2

- The compensating load varying automatically from a minimum value, this value being zero when all switchs are open (See Figure 4) to a maximum value, when all switches are closed (See Figure 5).

In regard to Claims 6 & 7

- The compensating load (160-164) made through pulse width modulation )(See Figure 4 & Figures 6A, 6B & Column 5, Lines 6-39) through a switch (S1-S5)

Art Unit: 2836

operatively associated with the control unit (140) (See Figure 3 & Column 3, lines 14-29)

In regard to Claim 8

- The compensating load (160-164) being a resistance of a constant value (See Column 3, Lines 30-38).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Azimi et al., Kronberg, & Aboyoussef, & Spiridon et al. (US 6,507,173).

Incorporating all arguments above of the voltage system taught by Azimi, Azimi fails to teach a timer used to control an impending de-energization of the loads upon occurrence of low voltage situations in the power source with a duration less than a predetermined length of time.

Spiridon et al. (hereinafter referred to as Spiridon) teaches a timer used to control the de-energization of a load after a low voltage situation has occurred for a predetermine period of time (See Column 6, Lines 50-62).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a timer in which to disconnect the loads when the voltage was low for a predetermined length of time. The motivation would have been to protect the loads from damage from low voltage while preventing inappropriate load dropping for inconsequential low voltage durations.

Art Unit: 2836

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Azimi et al., Kronberg, & Aboyoussef, & Takagi et al. (US 2001/0035018).

Incorporating all arguments above of the voltage system taught by Azimi, Azimi fails to teach the system used in a refrigerator. Takagi et al. (hereinafter referred to as Takagi) teaches a refrigerator circuit.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the power supply system of Azimi into the design of Takagi in which to provide power to the refrigerator. The motivation would have been to prevent variations in the supply voltage (See Azimi, Abstract).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Cavallari whose telephone number is (571)272-8541. The examiner can normally be reached on Monday-Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571)272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2836

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel Cavallari

March 28, 2006



BRIAN SIRCUS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800